

FIG. 1

ERRORS IN DETECTING BILLING CREDIT QUERIES
<u>False Detections</u> yes i need a sprint operator I_NEED_CREDIT_EOS yes i have a number here and i don't know if it's A_WRONG_NUMBER ... i was trying to get 612 xxx xxxx and it said it WAS_DISCONNECTED...
<u>Missed Detections</u> i am trying to call wooster and the number i have rings to a different number i'm going to blame this one on my wife i misread her handwriting i'm-dialing 215 xxx xxxx and i keep getting bells and things like that i'm calling a long distance number in the 201 area code it just went booo boooo booo

FIG. 2

CORRECT DETECTIONS OF BILLING CREDIT QUERIES
i placed a call and i GOT_A_WRONG_NUMBER earlier this afternoon yes i MISDIALED a number I_WAS_CUT_OFF when trying to call this number I_WAS_DIALING 1 xxx xxx xxxx and i got someone else yes operator I_JUST_DIALED AN_INCORRECT_NUMBER yes i would like TO_GET_CREDIT_FOR a number i called

**FIG. 3**

DETECTING BILLING CREDIT REQUESTS VIA SALIENT PHRASES		
Classification Rate $P(\text{CREDIT} \mid \text{phrase})$	Coverage $P(\text{phrase} \mid \text{CREDIT})$	Phrase
0.92	0.48	wrong
0.98	0.41	wrong number
0.95	0.45	wrong (number eos call)
0.97	0.42	(a the was) wrong (number eos call)
0.95	0.50	F(wrong)   F(dialed)
0.95	0.57	F(wrong)   F(dialed)   F(credit)
0.95	0.59	previous   F(disconnected)
0.95	0.64	previous   F(misdialed)   F(cut off)

FIG. 4

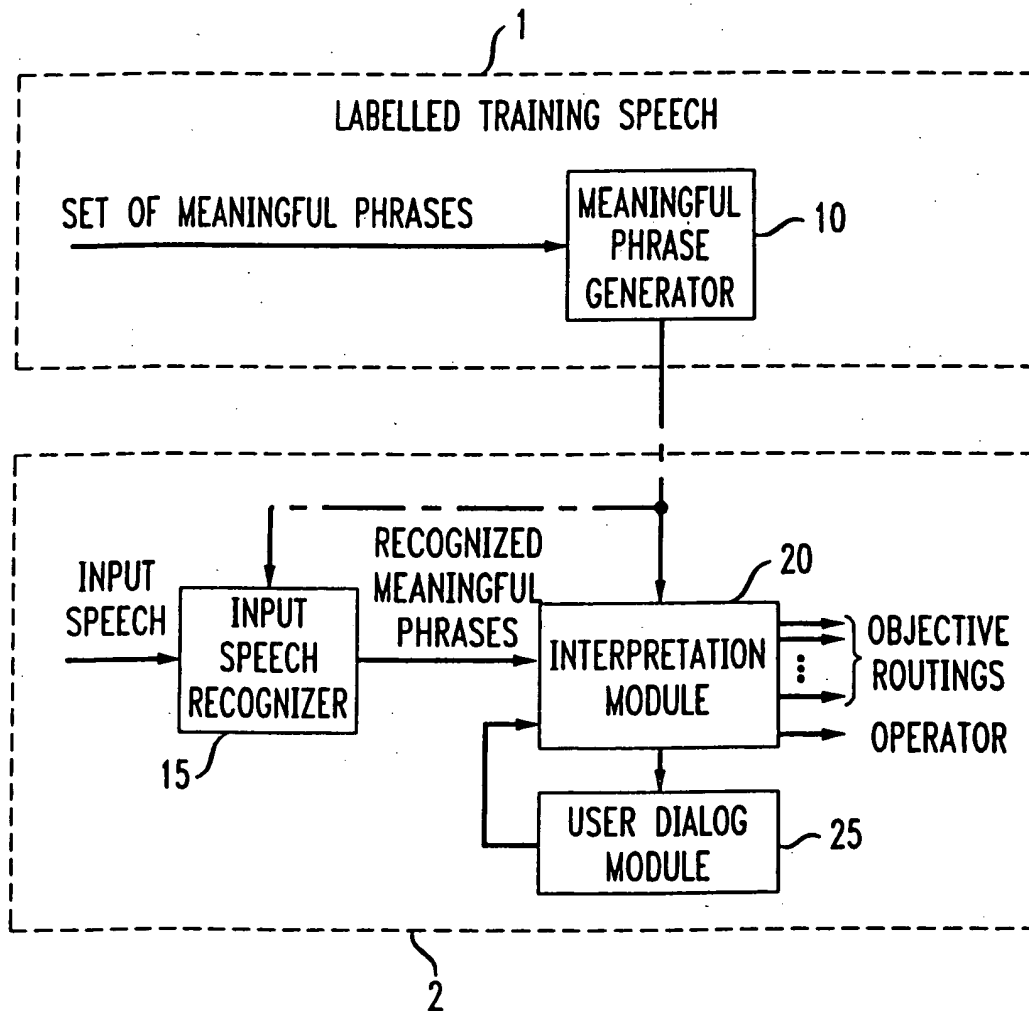
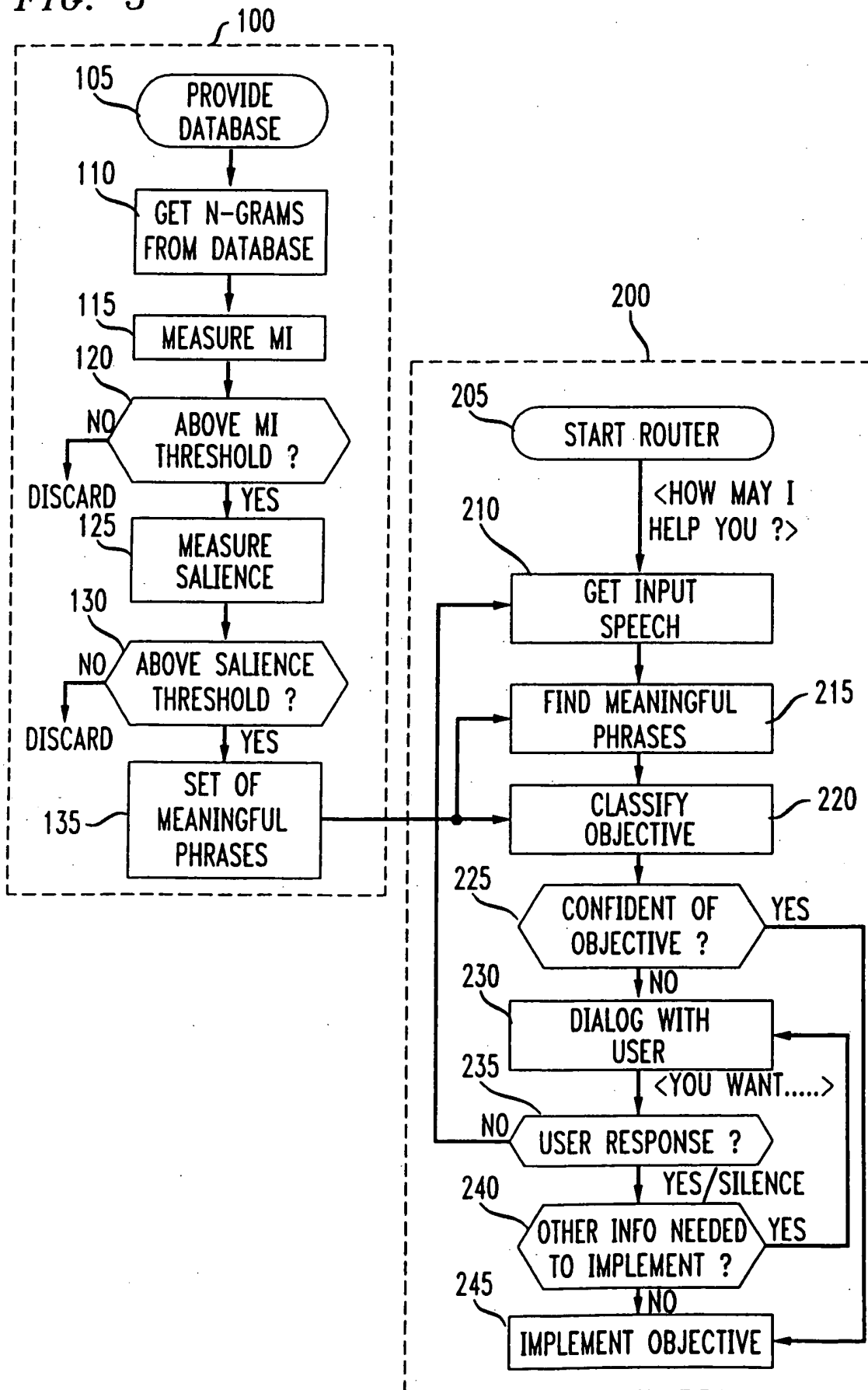


FIG. 5



*FIG. 6*

Mut Inf	Phrase Fragments	Max Prob	Action
7.4	MADE A LONG DISTANCE	0.93	credit
7.3	LONG DISTANCE	0.55	(credit)
7.1	I WOULD LIKE	0.24	
6.9	AREA CODE	0.65	(area code)
6.3	COULD YOU TELL ME	0.37	
5.6	THE AREA CODE FOR	0.92	area code
5.3	I'M TRYING	0.33	
5.0	A WRONG NUMBER	0.98	credit
4.9	A LONG DISTANCE CALL	0.62	(credit)
4.8	THE WRONG NUMBER	0.98	credit
4.8	A NUMBER IN	0.29	
4.4	I'M TRYING TO	0.33	
4.3	LONG DISTANCE CALL	0.62	(credit)
4.3	TRYING TO	0.30	
4.3	I JUST MADE A	0.93	credit
4.1	I'D LIKE TO	0.18	
4.0	TO MAKE A CALL	0.24	